

# Andrew S. Rich, BSME, ACTAR, ASE

## Rich Consulting, LLC

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### EDUCATION

#### **New Jersey Institute of Technology**

- Bachelor of Science in Mechanical Engineering, Summa Cum Laude
- Senior design project: An Excel Application to Estimate the Impact Speed of a Vehicle After a Collision with a Utility Pole or Tree

### ACCREDITATIONS AND LICENSES

#### **Accreditation Commission for Traffic Accident Reconstruction (ACTAR)**

- Certificate of Full Accreditation #1776, Sep. 2006

#### **National Institute for Automotive Service Excellence (ASE)**

- Certified Automotive Technician #ASE-5604-6945, Dec. 2016

#### **Federal Aviation Administration**

- Private Pilot, Single Engine Land, Sep. 2002
- Remote Pilot (Drone), Mar. 2021.

### EXPERIENCE

#### **Rich Consulting, LLC**

Dec. 2012 to Present

#### *Principal, Accident Reconstructionist*

- More than 1900 hours of training concentrated in Traffic Crash Reconstruction/Investigation
- Routinely perform complex analyses including:
  - Speed Calculations, Human Factors Elements, Time-Distance, Event Data Recorder (“black box”) Analysis, Energy Damage Profile, Lamp Examinations, Occupant Kinematics, Video Speed Analysis, and Monte Carlo analysis.
- Serve as an expert for legal matters involving:
  - Fatality/Serious Injury Collisions, Passenger Vehicles, Commercial Vehicle Collisions, Pedestrian, Motorcycle, and Bicycle Collisions.
- Utilize the Leica BLK 360 Laser Scanner and/or the iPhone 12 Pro Max for precise measurements to produce 3-D point cloud models, demonstratives, animations, simulations, and diagrams.
- Utilize a Mavic 2 Pro unmanned aerial system (drone) to obtain point clouds, textured meshes, orthomosaic scene images and accurate measurements of scenes.
- Utilize a Carlson Robotic Total Station and RTK GNSS for forensic mapping of scenes and vehicle damage.
- Utilize Virtual Crash 5 software to simulate and/or animate passenger vehicle, heavy truck, pedestrian, and bicycle accidents.
- Perform photogrammetric analyses (obtaining measurements from photos and/or video).
- Utilize the equipment necessary to obtain data from automotive event data recorders (EDR) and heavy truck engine control modules (ECM).

- Instruct police officers, engineers, and insurance employees in the use of the Bosch Crash Data Retrieval Tool and in the interpretation of EDR data.

**University of Tulsa Traffic Crash Reconstruction Consortium**

2010 – 2015

*Contract Test Engineer*

- Planned, prepared, and executed bicycle, pedestrian, passenger vehicle and heavy truck crash tests
- Analyzed data from laboratory-grade instruments utilized in crash tests

**Crash Test Team, University of North Florida (IPTM)**

2007 – Present

*Member*

- Plan, prepare and execute bicycle, pedestrian, passenger vehicle and heavy truck crash tests
- Analyze data from laboratory-grade instruments utilized in crash tests

**University of North Florida, Institute of Police Technology and Management**

2003 – Present

*Adjunct Instructor*

- Instruct and design advanced accident reconstruction courses
  - Applied Physics
  - Vehicle Dynamics
  - Advanced Crash Reconstruction
  - Energy Methods and Damage Analysis
  - Event Data Recorder Level I
  - Event Data Recorder Level II
  - Advanced Pedestrian/Bicycle Accident Reconstruction
  - Post-Crash Forensic Vehicle Examinations

**Bergen County Prosecutor's Office, Paramus, NJ**

1999 – 2012

*Detective/Pilot*

- Assigned to the Fatal Accident Investigation Unit (FAIU) and the Aviation Unit. Responsible for supervising serious/fatal collision investigations occurring within Bergen County. Duties included:
  - Collision analysis and reconstruction
  - Supervised a twenty-four-member Fatal Accident Investigation Unit Task Force
  - Reviewed and approved all task force reconstructions
  - Reviewed and approved traffic control plans for police DWI roadblocks in Bergen County
  - Prepared forensic maps using a total station, high-definition laser scanner, and computer aided drawing (CAD) software
  - Performed forensic vehicle, scene, and pedestrian examinations
  - Downloaded and interpreted event data recorder (EDR) data
  - Assisted Homicide and Arson Squads with crime scene documentation/measurements
  - Interviewed hundreds of witnesses to serious and fatal motor vehicle collisions

**Palisades Interstate Parkway Police, Alpine, NJ**

1988 – 1999

*Police Sergeant*

- Supervised all serious and fatal collision investigations
- Collision analysis and reconstruction
- Performed forensic vehicle, scene, and pedestrian examinations
- Investigator for the Bergen County Prosecutor's Office Fatal Accident Investigation Unit

<b>Larry Peters Hyundai, Ramsey, NJ</b> <i>Auto Mechanic</i>	1987 – 1988
<b>Brogan Cadillac, Ridgewood, NJ</b> <i>Auto Mechanic</i>	1986 – 1987
<b>Glen Motors Toyota, Hawthorne, NJ</b> <i>Auto Mechanic</i>	1982 – 1983

### **ADDITIONAL TEACHING EXPERIENCE**

• ACTAR Exam Preparation	2010 – Present
• Using Microsoft Excel for Traffic Crash Reconstruction	2010 – Present
• Vehicle Dynamics Instructor for the New Jersey Dept. of Highway Traffic Safety	1999 – 2003
• Bergen County Prosecutor’s Office Fatal Accident Investigation Unit Training	1999 – 2012
• Student Tutor at Bergen Community College, Paramus, NJ	1997 – 1998
◦ Algebra, Precalculus, Calculus, and Physics	

### **RELEVANT EDUCATION AND TRAINING**

<b>Aerial Photogrammetry in Crash Reconstruction</b> NAPARS Webinar (2 hours)	Mar. 2023
<b>Interactive Driver Response Research (IDRR) Forum</b> Driver Research Institute, Atlanta, GA (24 hours)	Feb. 2023
<b>Automatic Transmission/Transaxle Diagnosis</b> Garage Gurus (online—1 hour)	Sep. 2022
<b>Video Examinations for Investigators</b> Axon (online—8 hours)	Sep. 2022
<b>Symposium on Traffic Safety</b> University of North Florida, IPTM. Orlando, FL (32 hours).	Jun. 2021
<ul style="list-style-type: none"> <li>• What’s New with GM Event Data Recorders</li> <li>• The Traffic Signal as an EDR: Did it Record Your Crash?</li> <li>• The Ultimate Guide to Laser Scanners</li> <li>• Trailer Crashes and Trailer Dynamics</li> <li>• How Far Do Headlights Penetrate?</li> <li>• EDR In Traffic Crash Reconstruction Update</li> </ul>	
<b>Accident Reconstruction, The Autonomous Vehicle and ADAS</b> Society of Automotive Engineers. Troy, MI (7 hours)	Aug. 2021
<b>Optics, Lighting, Visibility and Digital Photography for Forensic Investigators</b> Clearly Visible Presentations, LLC. West Chester, OH (23 hours)	Jul. 2021
<b>Symposium on Traffic Safety</b> University of North Florida, IPTM. Orlando, FL (32 hours)	Jun. 2021

- Accessing Toyota Vehicle Control History and Collision Avoidance Data
- Kawasaki Event Data Recorder
- Capturing Data Using the UAV, GNSS, Scanner and Total Station Toolbox
- Vehicle System Forensics

<b>What's a Fuel Trim?—Decoding Gasoline Engines for the Medium/Heavy Truck World</b> Isuzu Truck University (1 hour)	May 2021
<b>Virtual Annual Joint Conference</b> National Association of Professional Accident Reconstruction Specialists (6 hours)	Oct. 2020
<ul style="list-style-type: none"> <li>• Perception Response Time in Different Crash Types</li> <li>• Obtaining Chip-Level Data from [Event Data Recorder] Modules</li> <li>• Analysis of ECM Data in New Freightliners</li> </ul>	
<b>Photogrammetry for Forensics</b> Ai2-3D (8 hours)	Oct. 2020
<b>Tire Pressure Monitoring System Diagnosis and Servicing—Webinar for Technicians</b> National Institute for Automotive Service Excellence (1 hour)	Aug. 2020
<b>TPMS 2020—It's Not Just the Warning Light Anymore--Webinar for Technicians</b> National Institute for Automotive Service Excellence (1 hour)	Jul. 2020
<b>CCAR's Hybrid Electric/Electric Vehicle Safety—Webinar for Technicians</b> National Institute for Automotive Service Excellence (1 hour)	May 2020
<b>Electrical Diagnostic Skills &amp; Strategies--Webinar for Technicians</b> National Institute for Automotive Service Excellence (1 hour)	May 2020
<b>EDR Summit</b> Crash Data Group. Houston, TX (18 hours)	Mar. 2020
<ul style="list-style-type: none"> <li>• Toyota Vehicle Control History Data</li> <li>• Subaru ADAS System</li> <li>• Pedestrian Automatic Emergency Braking</li> <li>• Tesla EDR Update</li> <li>• Ignition Cycles</li> <li>• Locomotive Event Data Recorders</li> <li>• Crossing Signal Event Recorders</li> </ul>	
<b>Virtual Crash Simulation Software</b> Forensic Training Group. Atlanta, GA (24 hours)	Oct. 2019
<b>Operation and Maintenance of Heavy-Duty Vehicle Air Brake Systems and Components</b> Bendix Spicer Foundation Brake, LLC. Elyria, OH (24 hours)	Oct. 2019
<b>Scanning &amp; Software Workshop</b> FARO. Hudson, OH (4 hours)	Mar. 2019

<b>Heavy Vehicle Event Data Recovery and Analysis</b> Commonwealth Transportation Consultants. Charlotte, NC (24 hours)	Feb. 2019
<b>Crash Reconstruction with Video Evidence</b> OTARA. West Chester, OH (6 hours)	Nov. 2018
<b>Pennsylvania State Police Collision Reconstruction Seminar</b> Gettysburg, PA (10 hours)	Oct. 2018
<ul style="list-style-type: none"> <li>• Distracted driving</li> <li>• Acceleration: Lateral, forward, backward, and heavy truck</li> <li>• Role of NTSB and autonomous vehicle crashes</li> <li>• Pedestrian walking speeds</li> <li>• Heavy vehicle event logging devices</li> </ul>	
<b>Symposium on Traffic Safety</b> University of North Florida, IPTM. Clearwater Beach, FL (6 hours)	May 2018
<ul style="list-style-type: none"> <li>• Human factors Research Update</li> <li>• FARO Zone 3D</li> <li>• Using 3D Scanners in Crash reconstruction</li> </ul>	
<b>Traffic Crash Analysis Using Virtual Crash Software</b> Forensic Training Group. Nashville, TN (19 hours)	Mar. 2018
<b>Heavy Truck Crash Reconstruction—Including Digital Forensics</b> Forensic Training Group. Nashville, TN (21 hours)	Feb. 2018
<b>Pennsylvania State Police Collision Reconstruction Seminar</b> Pennsylvania State Police. Gettysburg, PA (4 hours)	Oct. 2017
<ul style="list-style-type: none"> <li>• Results of Human Factors Testing</li> <li>• Heavy Truck Inspections</li> </ul>	
<b>EDR Summit</b> Collision Safety Institute and Collision Publishing. Houston, TX (20 hours)	Mar. 2017
<ul style="list-style-type: none"> <li>• Hyundai/Kia Update</li> <li>• Autonomous Vehicles</li> <li>• Data from Infotainment Systems</li> <li>• Forensic Data from Heavy Vehicle Networks</li> <li>• Toyota Gen 3 Pre-Crash Brake Data</li> <li>• Asynchronous Data Concepts in EDR Data</li> <li>• Atypical Airbag Deployment Cases</li> <li>• Forensic Methods for Dealing with Damaged ECM/ECU Components</li> </ul>	
<b>Bridgestone/Firestone Tire Forensics and Accident Investigation Clinic</b> Bridgestone/Firestone. West Chester, OH (6 hours)	Dec. 2016
<b>Optics, Lighting, Visibility and Digital Photography for the Forensic Investigator</b> Clearly Visible Presentations, LLC. Indianapolis, IN (40 hours)	Sep. 2016

<b>Advanced Crash Reconstruction Utilizing Human Factors</b> Northwestern University (40 hours)	May 2016
<b>Comprehensive Air Brake Systems Training Program</b> Bendix. Online (3.5 hours)	Mar. 2016
<b>CDR Summit</b> Collision Safety Institute and Collision Publishing. Houston, TX (20 hours)	Jan. 2016
<ul style="list-style-type: none"> <li>• Non-Supported Ford Vehicles</li> <li>• Damaged Airbag Control Modules</li> <li>• Hyundai-Kia Update</li> <li>• FCA Update</li> <li>• ACM Reprogramming Update</li> <li>• Testing and Analysis of Unsupported Kia Data</li> </ul>	
<b>2015 Illinois Association of Technical Accident Investigators Conference</b> East Peoria, IL (24 hours)	Sep. 2015
<ul style="list-style-type: none"> <li>• Vehicle Inspections, Nomenclature, and Inspections</li> <li>• Traffic Emerging Technologies</li> </ul>	
<b>Special Problems in Traffic Crash Reconstruction</b> University of North Florida, IPTM. Clearwater Beach, FL (32 hours)	May 2015
<ul style="list-style-type: none"> <li>• The Proper Use of Simulation Technology for Collision and Rollover Reconstructions and Highway Safety</li> <li>• Air Brake Inspections and Brake Force Calculations for Heavy Vehicles Equipped with Air Disk Brakes</li> <li>• Video Analysis and Court Presentation in Collision Investigations</li> <li>• Crush, Stiffness Values, and Force Balance Case Study Application(s)</li> <li>• Crash Simulation 101</li> <li>• Working with Time and Distance in the World of EDRs</li> </ul>	
<b>CDR Summit</b> Collision Safety Institute and Collision Publishing. Houston, TX (20 hours)	Jan. 2015
<ul style="list-style-type: none"> <li>• Toyota Event Recording Prioritization</li> <li>• Non-Supported Nissan and Infiniti Vehicle Crash Data</li> <li>• GM Ignition Switch Failures and the Associated CDR Data</li> <li>• New Vehicle Technologies</li> <li>• Clearing an ACM—What is it, How is it Done?</li> </ul>	
<b>Roadway Design and Maintenance, Intersection Control, Punitive Damages, and MUTCD</b> New York Statewide Traffic Accident Reconstruction Society. Valhalla, NY (7 hours)	Feb. 2014
<b>Special Problems in Traffic Crash Reconstruction</b> University of North Florida, IPTM. St. Pete Beach, FL (37 hours)	May 2013
<ul style="list-style-type: none"> <li>• Event Data Recorder Update (ver. 10.2)</li> <li>• CRASH3 in a Nutshell</li> <li>• Case Studies in Applying EDR to Traffic Crash Reconstruction</li> <li>• GM Hybrid and Electric Vehicle Technology and its Relationship to EDR</li> <li>• Motorcycle Modifications and How They Can Affect Your Reconstruction</li> </ul>	

<p><b>Special Problems in Traffic Crash Reconstruction</b>  University of North Florida, IPTM. Jacksonville, FL (4 hours)</p> <ul style="list-style-type: none"> <li>• Introduction to HVEDR Technology</li> <li>• Event Data Recorder Update</li> </ul>	May 2012
<p><b>High-Definition Surveying (3-D Laser Scanning &amp; Cyclone Software)</b>  Leica Geosystems. Paramus, NJ (32 hours)</p>	Apr. 2012
<p><b>2011 NATARI Combined Conference</b>  Harrisburg, PA (24 hours)</p> <ul style="list-style-type: none"> <li>• Pedestrian Collisions</li> </ul>	Oct. 2011
<p><b>Crash Data Retrieval Update (Ver. 4.1)</b>  Crash Data Specialists. Millersville, MD (14 hours)</p>	Sep. 2011
<p><b>Human Factors in Traffic Crash Reconstruction</b>  University of North Florida, IPTM (40 hours)</p>	Sep. 2011
<p><b>Special Problems in Traffic Crash Reconstruction</b>  University of North Florida, IPTM. (28 hours)</p> <ul style="list-style-type: none"> <li>• Event Data Recorder Update (ver. 3.8)</li> <li>• Motorcycle Vs. Car Impacts</li> <li>• Passenger Car Rollovers</li> </ul>	May 2011
<p><b>2010 Maryland Association of Traffic Accident Investigators Joint Conference</b>  Ocean City, MD (24 hours)</p> <ul style="list-style-type: none"> <li>• Heavy Truck Rollovers</li> <li>• Heavy Truck Underrides</li> </ul>	Oct. 2010
<p><b>2010 Illinois Association of Technical Accident Investigators Conference</b>  Bloomington, IL (24 hours)</p> <ul style="list-style-type: none"> <li>• Vehicle Rollovers</li> <li>• Tire Forces</li> <li>• Event Data Recorder Update</li> <li>• Pedestrian Collision Reconstruction</li> </ul>	Sep. 2010
<p><b>Grade Crossing Collision Investigation</b>  International Association of Chiefs of Police (8 hours)</p>	Jul. 2010
<p><b>Special Problems in Traffic Crash Reconstruction</b>  University of North Florida (28 hours)</p> <ul style="list-style-type: none"> <li>• Case Preparation</li> <li>• Planar Impact Mechanics</li> <li>• Instrumentation and Testing for Crash Reconstruction</li> </ul>	Apr. 2010
<p><b>2009 Illinois Association of Technical Accident Investigators Conference</b>  Bloomington, IL (24 hours)</p> <ul style="list-style-type: none"> <li>• Critical Speed Yaw Analysis and Lane Change Maneuvers</li> <li>• Crash Testing</li> </ul>	Sep. 2009

- Event Data Recorder Update and Validation Testing

**Emergency Vehicle Operations Simulator Instructor Training**

Jun. 2009

Mahwah, NJ (14 hours)

**Special Problems in Traffic Crash Reconstruction**

Apr. 2009

University of North Florida, IPTM (28 hours)

- Event Data Recorder Version 3.1/3.2 Update
- Single Image Planar Rectification and Multi-Image and Close-Range Photogrammetry in Crash Reconstruction
- The Application of the Searle Throw Distance Formula

**New Jersey Association of Accident Reconstructionists Joint Conference**

Oct. 2008

Atlantic City, NJ (20 hours)

- Event Data Recorder Update
- Critical Speed Yaw
- Airborne Testing
- Lateral Pole Impact Testing

**Special Problems in Traffic Crash Reconstruction**

Apr. 2008

University of North Florida, IPTM (28 hours)

- Sudden Acceleration Crash Investigation
- Surviving the Deposition
- Statistics: A Method to Quantify Uncertainty
- Validating the “f” in Searle
- Estimating Driver Response Times
- What’s New in Event Data Recorders
- New Technology in Commercial Vehicles

**2007 Illinois Association of Technical Accident Investigators Conference**

Sep. 2007

Bloomington, IL (24 hours)

- Momentum Methods
- Crash Testing
- Computer Animation

**Energy Methods and Damage Analysis in Traffic Crash Reconstruction**

Jun. 2007

University of North Florida, IPTM (40 hours)

**Special Problems in Traffic Crash Reconstruction**

Apr. 2007

University of North Florida, IPTM (28 hours)

- Pedestrian Collision Testing
- Animation
- Case Preparation
- Pole Impact Testing
- Bus/Passenger Vehicle Crash Testing

<b>Crash Data Retrieval Data Analyst (Ver. 2.9)</b> Collision Safety Institute (32 hours)	Mar. 2007
<b>Crash Data Retrieval Data Analyst (Ver. 2.8)</b> Collision Safety Institute (24 hours)	Oct. 2006
<b>Crash Data Retrieval Technician</b> Collision Safety Institute (8 hours)	Oct. 2006
<b>Forensic Mapping Systems</b> MJC and Associates (Certified Sokkia Total Station Training, 40 hours)	May 2006
<b>Traffic Crash Reconstruction Update</b> University of North Florida, IPTM (40 hours)	Mar. 2006
<b>AAA Traffic Safety and Crash Investigation Conference</b> Mahwah, NJ (32 hours)	Oct. 2004
<b>Human Bloodstain Patterns</b> The Henry C. Lee Institute of Forensic Science (40 hours)	Jun. 2003
<b>Special Problems in Traffic Crash Reconstruction</b> University of North Florida, IPTM (28 hours)	May 2003
<ul style="list-style-type: none"> <li>• Rollover Testing</li> <li>• Validation of the WinSlam Spin Model</li> <li>• NHTSA Crash Testing</li> </ul>	
<b>Crash Data Retrieval Certification Course</b> Collision Safety Institute (16 hours)	Apr. 2003
<b>Applied Physics for Traffic Crash Investigators</b> University of North Florida, IPTM (40 hours)	Feb. 2002
<b>Photogrammetry Using PhotoModeler</b> DeChant Consulting Services (24 hours)	Sep. 2000
<b>Acceleration and VC-2000PC Training</b> Vericom Computers, Inc. (8 hours)	Aug. 2000
<b>Computerized Collision Diagramming</b> University of North Florida, IPTM (40 hours)	Jul. 2000
<b>Inspection and Investigation of Commercial Vehicle Crashes</b> University of North Florida, IPTM (40 hours)	Jun. 2000
<b>The Relationship Between Crush and Energy in Collision Reconstruction</b> New Jersey Association of Accident Reconstructionists (16 hours)	Mar. 2000

<b>Forensic Mapping Specialist</b> MJC and Associates (Certified Sokkia Total Station Training, 40 hours)	Oct. 1999
<b>Motorcycle Accident Investigation</b> University of North Florida, IPTM (40 hours)	Sep. 1999
<b>VC-2000 Operator's Training</b> Vericom Computers, Inc. (8 hours)	Mar. 1999
<b>Police Work Zone Safety</b> (8 hours) Bergen County Police Academy	Jan. 1997
<b>Advanced Accident Reconstruction</b> Texas A&M University, TEEX (40 hours)	Sep. 1996
<b>Certified Breathalyzer Operator</b> N.J. Dept. Of Law and Public Safety (40 hours)	Sep. 1995
<b>Pedestrian/Bicycle Accident Reconstruction</b> Texas A&M University, TEEX (40 hours)	Sep. 1995
<b>Traffic Accident Reconstruction</b> University of North Florida, IPTM (80 hours)	May 1995
<b>Tire Damage Analysis</b> Michelin Tire Company (8 hours)	Feb. 1995
<b>Advanced Traffic Accident Investigation</b> University of North Florida, IPTM (80 hours)	Mar. 1994
<b>At Scene Traffic Accident Investigation</b> University of North Florida, IPTM (80 hours)	Feb. 1994
<b>Horizontal Gaze Nystagmus</b> National Highway Traffic Safety Administration (24 hours)	May 1993
<b>At Scene Traffic Accident Investigation</b> Bergen County Prosecutor's Office (40 hours)	Mar. 1993
<b>Doppler Radar Operator</b> N.J. Department of Law and Public Safety (80 hours)	Aug. 1988
<b>Police Training Commission Certificate, Basic Police Training</b> Paterson (NJ) Police Academy (880 hours)	Apr. 1988

## **RESEARCH, CRASH TESTING, AND EXPERIMENTS**

- Event Data Recorder Location Effects on Closing Speed Analysis
- Closing Speed Analysis Using EDR Delta-V, Restitution and Effective Mass Ratio
- Low-Speed Impact Tests to Determine Coefficient of Restitution
- Event Data Recorder Delta-V Validation
- Planar Impact Mechanics
- Critical Speed Yaw
- Balancing Collision Forces Validation Tests
- Lane Change Maneuver
- New Jersey Barrier Impacts
- Three-car Collinear Impacts
- Airborne Vehicle Testing
- Frontal Pole Impact Testing
- Lateral Pole Impact Testing
- Multiple Departure Planar Impact Mechanics
- Drag Sled Testing
- Effects of ABS Braking on Grass
- Pedestrian Crash Testing
- Tractor Trailer Skid Testing
- Motorcycle Sliding Friction
- SLAM/WinCrash Spin Model Validation
- Motor Vehicle Rollovers
- Motor Vehicle Rollover Drag Factor Tests on Turf
- Motor Vehicle Sliding Drag Factors on Grass and Asphalt
- Coefficient of Friction Determination
- Normal Acceleration Rates for Passenger Vehicles
- Bloodstain Pattern Recognition
- Low, Medium and High Velocity Bloodstain Patterns
- Bloodstain Origin Determination
- Bloodstain Volume Estimation
- Truck Underrides
- Rotational Mechanics
- Validation of the Effective Mass Ratio
- Low Closing Speed Restitution Values for Transit Bus/Passenger Vehicle Impacts
- Truck v. Car Collisions
- ABS Brake Testing

## **PUBLICATIONS**

- Author/coauthor of many publications.
- See Publications and Presentations List.

## **PRESENTATIONS**

- Presenter/co-presenter at many accident reconstruction conferences, The College of NJ, and high schools.
- See Publications and Presentations List.

## **MEDIA APPEARANCES**

- The Accident Investigator, Episodes 1 and 4, The Discovery Health Channel, 2006.
- Legal Affairs Magazine, July/August 2004. “Crash Course. The Science of Reconstructing Car Accidents”.

## **PROFESSIONAL AFFILIATIONS**

- Society of Automotive Engineers;
- National Association of Professional Accident Reconstruction Specialists;
- New Jersey Association of Accident Reconstructionists (Life Member);
- Ohio Traffic Accident Reconstruction Association (Life Member); and
- Pennsylvania Collision Analysis and Reconstruction Society.

Not Retained